

Clean Copy of the Claims

13. (Twice Amended) A method for identifying substances having anesthetic properties, wherein said substances produce a reversible state of unconsciousness with concurrent amnesia and analgesia in a mammal upon inhalation comprising:
- (a) contacting said substance with TREK-1 or TASK mammalian potassium transport proteins, wherein said TREK-1 or TASK protein exhibits outward-going potassium rectification; and
  - (b) determining the potassium transport activity of said TREK-1 or TASK protein, wherein an activation of potassium transport is indicative of said substance having anesthetic properties.
19. (Twice Amended) A method for identifying substances having anesthetic properties, wherein said substances produce a reversible state of unconsciousness with concurrent amnesia and analgesia in a mammal upon inhalation comprising:
- (a) contacting said substance with COS cells, wherein said COS cells are transfected with a nucleotide vector comprising a nucleic acid molecule encoding (SEQ ID NO:2), wherein said COS cells transiently express said amino acid sequence on a surface of said COS cells, and wherein said amino acid sequence exhibits outward-going potassium rectification; and
  - (b) determining the potassium transport activity of said amino acid sequence wherein an activation of potassium transport is indicative of said substance having said anesthetic properties.
20. (Twice Amended) A method for identifying substances having anesthetic properties, wherein said substances produce a reversible state of unconsciousness with concurrent amnesia and analgesia in a mammal upon inhalation comprising:
- (a) contacting said substance with COS cells, wherein said COS cells are transfected

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with a nucleotide vector comprising a nucleic acid molecule encoding (SEQ ID NO:4), wherein said COS cells transiently express said amino acid sequence on a surface of said COS cells, and wherein said amino acid sequence exhibits outward-going potassium rectification; and

(b) determining the potassium transport activity of said amino acid sequence wherein an activation of potassium transport is indicative of said substance having said anesthetic properties.

23. (Twice Amended) A method for identifying substances having anesthetic properties, wherein said substances produce a reversible state of unconsciousness with concurrent amnesia and analgesia in a mammal upon inhalation comprising:

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(a) contacting said substance with transfected cells, wherein said transfected cells are transfected with a nucleotide vector comprising a nucleic acid molecule encoding (SEQ ID NO:5), wherein said transfected cells transiently express said amino acid sequence on a surface of said transfected cells, and wherein said amino acid sequence exhibits outward-going potassium rectification; and

(b) determining the potassium transport activity of said amino acid sequence wherein an activation of potassium transport is indicative of said substance having said anesthetic properties.